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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER CPA-80-2	2. GOVT ACCESSION NO. ---	3. RECIPIENT'S CATALOG NUMBER ---
4. TITLE (and Subtitle) Studying Intergroup Relations in Organizations		5. TYPE OF REPORT & PERIOD COVERED Technical report
6. PERFORMING ORG. REPORT NUMBER ---		7. CONTRACT OR GRANT NUMBER(s) N00014-79-C-0626/
8. AUTHOR(s) Clayton P. Alderfer Ken K. Smith		9. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NR 170-891
10. PERFORMING ORGANIZATION NAME AND ADDRESS Yale School of Organization and Management 56 Hillhouse Avenue New Haven, CT 06520		11. REPORT DATE January 10, 1980
12. CONTROLLING OFFICE NAME AND ADDRESS Organizational Effectiveness Research Programs Office of Naval Research (Code 452) Arlington, VA 22217		13. NUMBER OF PAGES 44
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) ----- JPL/18 JPL/11		15. SECURITY CLASS. (of this report) Unclassified
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited 1-141		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) ---		18. SUPPLEMENTARY NOTES ---
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) <div style="display: flex; justify-content: space-between;"> <div> Methodology Social philosophy of science Intergroup relations Embedded intergroup </div> <div> Organization groups Identity groups Mobility Interest group </div> <div> Race Task groups Micro-macro Multilevel </div> </div>		
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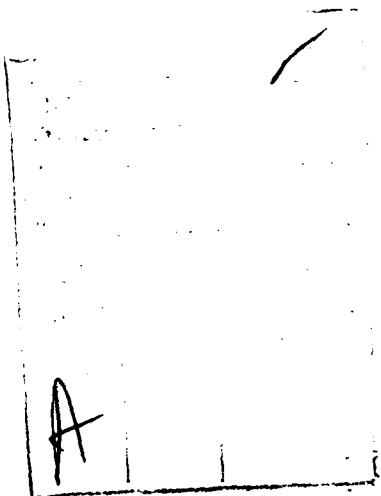
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STUDYING INTERGROUP RELATIONS IN ORGANIZATIONS

by

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and

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"I have put it this way: one can study the nature of things by doing something to them, but one can really learn something about the essential nature of living beings only by doing something with them or for them."

Erik Erikson

Insight and Responsibility, (1964), p. 229

"Haley, by this point, realized that he had a set of procedures looking for a theory."

Joan Bazar

APA Monitor 1979, 10(11), p. 6

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ABSTRACT

↓ Research in organizational behavior includes a significant conflict between some studies that focus on the "micro" processes of individual and small group behavior and others that address the "macro" dynamics of organization-environment relations. Partially split between these two styles of research, the field lacks a theoretical framework and methodological procedure for dealing with multi-level phenomena and the tensions among levels of analysis. This lack of integration is further supported by the tendency to separate methodology from data and theory.

↓ This paper presents theory of intergroup relations in organizations that deals with multilevel phenomena, derives methodological procedures for conducting intergroup research with organizations from the theory, reports data from two empirical studies pertaining to task group relations along a workflow and race relations among black and white managers, and formulates the concept of embedded intergroups to explain the phenomena uncovered in both studies. ↙ Intergroup theory and method provide a means for relating micro and macro phenomena in organizational behavior and for stimulating researchers to examine their own behavior as group representatives in participant observation, survey, and experimental social research.

Ranging somewhere between an early spring thundershower and a late summer hurricane is a stormy controversy between "micro" and "macro" levels of analysis in organizational behavior. The roots of the dispute rest in a number of sources, both theoretical and empirical. Organizational behavior is a multidisciplinary field drawing primarily from psychology and sociology and secondarily from political science and economics. Part of the controversy, therefore, arises from the conceptual and methodological perspectives of the parent disciplines. But as the field has grown and attained a degree of independence from its intellectual ancestors, the micro-macro tension has not disappeared and may even have intensified. The argument is sharpened by the formation of macro theoretical statements that largely ignore or actively dispute the importance of micro phenomena (Aldrich, 1979; Pfeffer and Salancik, 1978), and is also supported by empirical studies that put macro and micro independent variables in head to head competition through the technology of multivariate analysis (Herman and Hulin, 1972; Herman, Dunham, and Hulin, 1975; Rousseau, 1978).

As a signal of differences among those who study organizational behavior-- and perhaps especially among those who have authority in the field-- the controversy provokes a variety of responses. Younger professionals sometimes feel that they must choose sides. They ask each other whether they are micro or macro, and they classify senior members of the field as either macro or micro (Miles, 1975). Another stance is to look the split right in the eye, and then deny it. After conducting extensive multivariate analyses stimulated directly by the micro-macro tension, Rousseau (1978) concludes, "In short, the applicability of both macro and micro variables

to understanding attitudes and behavior in organizations suggests that the macro-micro distinction is becoming obsolete." Common to many modes of conflict management in science, however, is a search for improved theories. In this instance the aim is to formulate conceptual positions that help researchers contend with the multilevel phenomena of organizational behavior without denying the reality of each level of analysis or of the tensions among levels of analysis (Rice, 1969; Miller, 1978). The present paper provides a way of dealing with the micro-macro tension in organizational behavior through the interrelationships among method, theory, and data used for studying intergroup relations in organizations.

The argument proceeds in six steps. First, we provide a social philosophy of science that gives the behavior of researchers a central role in the social research process. Second, a theory of intergroup dynamics in organizations provides the conceptual equipment for both understanding intergroup phenomena in organizations and for designing methods to obtain empirical data. Third, concrete methods and procedures for conducting intergroup research present a set of actions for investigators to conduct intergroup research in organizations. Fourth, illustrative studies show two sets of empirical data that demonstrate the fruits of using the intergroup methodology. Fifth, data from the two studies stimulate the formulation of a concept of embedded intergroups in organizations, thereby enlarging the theoretical position stated initially. Finally, the conclusion discusses the implications of the present approach for the micro-macro split for the meaning of "objectivity" in social research, for the values implicit in the method, and for training people in the use of the methodology.

1. A SOCIAL PHILOSOPHY OF SCIENCE

Influenced by a philosophy of science closely tied to the advances in physics made at the start of the twentieth century, many social scientists approach the task of theory construction as essentially a problem in the relation between construct and data (cf., Marx, 1965, pp. 14 ff. and Blalock, 1971). Implicit in this stance is a view of methodology that is largely independent of the connection between theoretical construct and data and, therefore, mainly technological. The Herman and Hulin (1972), Herman, Dunham, and Hulin (1975), and Rousseau (1978) papers read as if methodology were largely, if not exclusively, multivariate analysis. The Pfeffer and Salancik (1978) and Aldrich (1979) books give little attention to the methodological implications of their theoretical positions, even though both treatments connect their theories to empirical data. The theory-data picture, however, is only one possible way to explain what organizational behavior research is about (Kaplan, 1964). An alternative view removes methodology from the technological sidelines and makes it a much more central actor in the theory-data dialogue.¹

There is support within both philosophy of science and empirical behavioral research for giving methodology--and perhaps especially the behavior of investigators--a central role in a reconstruction of the research process. Conant (1952) and later Kuhn (1962) explicitly discuss the role of "inventions" in the development of physical theory. Kuhn (1962, p. 17) gives the case of electricity as an important example. Certain "electricians" thought of electricity as a fluid and gave particular attention to conduction rather than to attractive and repulsive effects. Led by the

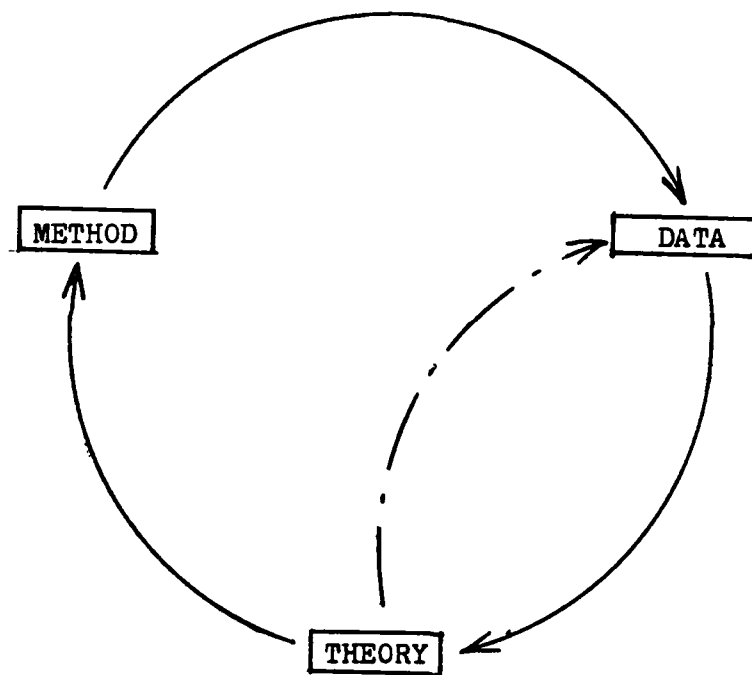
belief in electricity as a fluid, several investigators conceived of the idea of bottling electrical fluid. The fruit of their efforts was the Leyden jar, a device that was independently developed by at least two investigators in the early 1740's. Kuhn gives special attention to Franklin, who "almost from the beginning of his electrical researches, ... was particularly concerned to explain that strange ... piece of special apparatus. His success in doing so provided the most effective of the arguments that made his theory a paradigm, though one that was still unable to account for quite all the known cases of electrical repulsion." This orientation shows technology as both a stimulus to and a verifier of theory. Closely related to this view--and also part of physics--is the position that "good" instruments are directly derived from theory. In the introduction to their book on unobtrusive measurement, Webb, Campbell, Schwartz, and Sechrest (1966, p. 4) state:

In physics, the instruments we think of as
'definitional' reflect magnificently successful
theoretical achievements and themselves embody
classical experiments in their very operation.
In the social sciences, our measures lack intel-
ligence.

Figure 1 presents a diagram that symbolizes a reconstruction of behavioral science research in a way that makes methodology a central character in the process and contrasts this view with the simpler data-theory position.

Insert Figure 1 about here

Figure 1. Interrelationships among Theory, Method, and Data in Behavioral Research



According to the theory-method-data model and in contrast to the theory-data model, the relationship between theory and data is mediated by the use of methodology. In the most precise sense, methodological procedures derived from a theoretical understanding of the phenomena being studied are used to generate new data, which in turn serve to increase or decrease confidence in the theoretical position. Moreover, the research process as a circle is a valid analogy. The circle metaphor recognizes the possibility that advances may occur because of methodological inventions as well as because of anomalous data or conceptual developments. In the example cited above, the Leyden jar played such a role in the work on electrical theory. In the material to follow the methods and procedures for intergroup research will play an analogous role in research on intergroups in organizations. The close connections among theory, method, and data do not, however, imply self-fulfilling relationships among the three steps. Instead the three part process provides more rather than fewer checks on existing theory. Accordingly, consequences for the theory follow from indirectly methodological procedures as well as directly from empirical results. Latter portions of this paper demonstrate all three steps in the process, including revision of the theory based on data generated by the method.

Within behavioral science and psychology there is a tradition of doing empirical research and conceptual analysis on research transactions. Participant observers have an established body of literature reporting and reflecting on their experience and behavioral dynamics (Whyte, 1955; Adams and Preiss, 1960). Hyman, Cobb, Feldman, Hart, and Stember (1954)

provide an extensive study of interviewer effects in survey research. Rosenthal (1966) and Rosenthal and Rosnow (1968) conducted and stimulated an elaborate series of experiments on experimenter effects in behavioral research. Flowing from three rather different research traditions (unstructured observations, survey research, and experimentation), these studies nonetheless tend to focus on the same level of analysis--the inter-personal relationship between investigator and respondent. Although there are papers hypothesizing about the operation of group and structural forces in the research process (cf., Argyris, 1968; Becker, 1967; Sieber, 1973; Schuman and Hatchett, 1974), there are almost no known efforts to use group and structural theories to design research methods. The one known example of using group methods in research demonstrates a lack of understanding of group and intergroup theory. Douglas (1976, pp. 220-1) reports his experience with "untrustworthy" team members as follows:

We realized after a while that we were not getting much information from the person studying demonstrators . . .

I learned from two other members that this person was highly committed to the cause he was studying . . . and his political commitments made him suspicious of me . . .

I was being continually put off and fed previously known information by two hired-hand researchers. I looked into it. . . They were simply not doing the job, so we fired them.

The events reported by Douglas are highly understandable from the perspective of intergroup theory. But the research director's responses would have been

quite different, had the methodology been derived from intergroup theory rather than treated as something outside the context of the phenomena being studied. The disobedience and incompetence of team (group) members who are in interaction with other groups is an intergroup event, which, if examined, should provide valuable insight into the relationships among the groups being studied. Firing team members who show this behavior is directly analogous to unintentionally throwing away unwanted findings in a more conventional study. In general, when behavioral effects in methodology are well documented they tend to be interpreted as artifacts (e.g., Rosenthal and Rosnow, 1968) or as illustrations of the phenomena being studied (e.g., Schuman and Hatchett, 1974). An alternative perspective is to recast the methodological "problems" within the theory being studied and treat them as a source of data relevant to the investigation rather than as events independent from it. In this way the theory becomes intimately related to how the phenomena are studied, and better methods follow directly from better theories. This view of the research process provides a way out of the drunkard's search, whereby both drunkards and behavioral scientists look for keys under street lights with known and approved methods, regardless of whether anything can be found there (Kaplan, 1964, p. 11).

This paper now proceeds to follow the theory-method-data cycle for describing an intergroup perspective on organizational behavior. Sections 2, 3, 4, 5 present respectively the theory, method, data, and revised theory elements of the research process. Before preparing the paper we went around the cycle several times both to discover and to verify the process described. Even though the formal presentation begins with theory for the

sake of intellectual clarity, the actual uncovering process began with a series of methodological adventures described in Alderfer (1971) and Alderfer and Brown (1975). Like the Leyden jar, these methods were initially rooted in an invention--in this case the social technology of experiential learning in groups (c.f., Bion, 1961; Bradford, Gibb and Benne, 1964; Rice, 1965; Gibbard, Hartman, and Mann, 1974; Cooper and Alderfer, 1978; Alderfer and Cooper, 1980). Also, like the Leyden jar, the experiential group was independently developed in several places and served a variety of theoretical traditions (Anthony, 1971).

2. THE NATURE OF GROUPS AND INTERGROUPS IN ORGANIZATIONS

Understanding intergroup relations in organizations is a complex problem whose origins can be traced to some of the earliest work in organizational behavior (Alderfer, 1977a). Participant observer studies of intergroups in organizations were reported by Sayles and Strauss (1953), Whyte (1955), Sayles (1958), Dalton (1959), Crozier (1964), and Strauss (1962, 1964). Social psychologists working from an experimental tradition have been especially influenced by the Sherifs' (1969) series of field experiments and by Blake, Shepard and Mouton's (1964) subsequent studies and application to managerial behavior. Tajfel (1971) has carried out an extensive series of experiments on the effects of "group membership" (social categorization) on social perception and behavior. New interest in intergroup dynamics in organizations has been stimulated by applied behavioral scientists who attempt to use research results to change organizations (Burke, 1972; Lewicki and Alderfer, 1973; Alderfer, and Brown, 1975; Alderfer, 1977b; Berg, 1977; Nad'ar, 1979; Alderfer, Alderfer, Tucker,

and Tucker, 1980). Until recently, however, the difficulties associated with doing field research on intergroup relations in organizations--though well documented in the methodological literature--have rarely been analyzed by explicit use of intergroup theory (cf. Kahn and Mann, 1952; Adams and Preiss, 1960; Becker, 1967; Merton, 1972; Kidder and Stewart, 1975).

The key terms described here, which both stand on their own and inform our methods, include: a definition of groups in organizations, a general framework for explaining intergroup dynamics in organizations, and a specifically methodological concept called a microcosm group.

Definition of Groups in Organizations. Within the social psychology literature there is no shortage of definitions of groups, but there is also no clear consensus among those who propose definitions (Cartwright and Zander, 1968). Because much of the work leading to these definitions has been done by social psychologists studying internal properties of groups in laboratories, the resulting concepts have been comparatively limited in recognizing the external properties of groups. Looking at groups in organizations, however, produces a definition that gives more balanced attention to both internal and external properties (Alderfer, 1977a).

A human group is a collection of individuals
(1) who have significantly interdependent relations
with each other, (2) who perceive themselves as a
group by reliably distinguishing members from non-
members, (3) whose group identity is recognized² by
non-members, (4) who, as group members acting alone
or in concert, have significantly interdependent rela-

tions with other groups, and (5) whose roles in the group are therefore a function of expectations from themselves, from other group members, and from non-group members.³

This idea of a group begins with individuals who are interdependent, moves to the sense of group as a significant social object whose boundaries are confirmed from inside and outside, recognizes that the group-as-a-whole is an interacting unit through representatives or by collective action, and returns to the individual members whose thoughts, feelings, and actions are determined by forces within the individual and from both group and non-group members. This conceptualization of a group makes every individual member into a group representative wherever he or she deals with members of other groups and treats every transaction among individuals as at least in part an intergroup event (Rice, 1969; Smith, 1977).

Intergroups in Organizations. Every organization consists of a large number of groups, and every organization member represents a number of these groups in her or his dealings with other people in the organization. The full set of groups in an organization can be divided into two broad classes: identity groups and organization groups. Members of the same identity group share common biological characteristics, participate in equivalent historical experiences, and, as a result, have similar world views. People enter organizations as members of identity groups based on such variables as their ethnicity, sex, age, and family.⁴ Members of the same organization group share (approximately) common organizational positions, participate in equivalent work experiences, and, as a consequence, have similar organizational views. Organizations assign their members to organization groups

based on division of labor and hierarchy of authority. Moreover, identity group membership and organization group membership are not independent. Depending on the nature of the organization and the culture in which it is embedded, certain organizational groups tend to be filled by members of particular identity groups. In the United States, for example, upper management positions tend to be held by older white males, and certain departments and ranks tend to be more accepting of females and minorities than others (Loring and Wells, 1972; Purcell and Cavanagh, 1972). Both identity groups and organization groups meet the definition of human group given above. Identity group members are interdependent because of their common historical experience, and organization members because of their equivalent work experiences. Organization and identity group members can reliably distinguish members from non-members although this reliability may be less than 1.00 depending on the permeability of the group's boundaries. A similar point applies to the ability of non-members to recognize members; it depends on the permeability of the group's boundaries. The less permeable the boundaries the more easily recognizable are members. Individuals may be more or less aware of the extent to which they serve as group representatives for both their identity and organizational groups. Rarely are individuals "just people" when they act in organizations. Individuals are most likely to think of themselves as "just people" when there are no other group representatives present, but, we submit, this is the special rather than the general case.

In general, every person will have a number of identity and organization group memberships. At any given moment he or she may be simultaneously a member of a large number, if not all, of these groups. However, the group

made focal at the moment depends on who else representing which other groups is present and what identity and organizational group issues are critical in the current intergroup exchanges. A white person in a predominantly black organization, for example, can rarely escape representing "white people" at some level, no matter what her or his preference may be. But place that same white person in a predominantly white organization, and it is unlikely that he or she will represent "white people," but some other group such as a particular hierarchical level.

Research on intergroup relations has identified a number of properties characteristic of intergroup relations, regardless of the particular groups or the specific setting where the relationship occurs (Summer, 1906; Coser, 1956; Sherif and Sherif, 1969; Blake, Shepard and Mouton, 1964; van den Bergh, 1972; Levine and Campbell, 1972; Deutsch, 1973, Kidder and Stewart, 1975; Billig, 1976; Alderfer, 1976, 1980). These phenomena include:

a. Group boundaries. Group boundaries, both physical and psychological, determine who is a group member and regulate transactions among groups by variations in their permeability (Alderfer, 1977b). Boundary permeability refers to the ease with which boundaries can be crossed.

b. Power differences. Groups differ in the types of resources they can obtain and use (Lasswell and Kaplan, 1950). The variety of dimensions on which there are power differences and the degree of discrepancy among groups on these dimensions influences the degree of boundary permeability among groups.

c. Affective patterns. The permeability of group boundaries varies with the polarization of feeling among

the groups, that is, to the degree that group members split their feelings so that mainly positive feelings are associated with their own group and mainly negative feelings are projected onto other groups (Sumner, 1906; Coser, 1956, Levine and Campbell, 1972).

d. Cognitive formations, including "distortions". As a function of power differences and affective patterns, groups tend to develop their own language (or elements of language, including social categories), condition their members' perceptions of objective and subjective phenomena, and transmit sets of propositions--including theories and ideologies--to explain the nature of experiences encountered by members and to influence relations with other groups (Sherif and Sherif, 1969; Blake, Shepard, and Mouton, 1964; Tajfel, 1971; Billig, 1976).

e. Leadership behavior. The behavior of group leaders and of members representing a group reflects the boundary permeability, power differences, affective patterns, and cognitive formations of their group in relation to other groups. The behavior of group representatives, including formally designated leaders, is both cause and effect of the total pattern of intergroup in a particular situation.

Concept of Microcosm Group. A microcosm group is a collection of people whose relationships to one another and to their organizations meet the definition of a group given above and whose purpose is to create a structure that will allow observation of particular intergroup relationships within or among organizations, while not overlooking the effects of

the organizational context on those relationships. The concept of microcosm group follows directly from the definition of groups in organizations given above and from the propositions pertaining to inter-group relationships in organizations. Following from the proposition that all individuals are group representatives, the microcosm group will show the relations among the groups in or among organizations through the interpersonal relationships among its members (Alderfer, 1977b). The group boundaries, power differences, affective patterns, cognitive formations, and leadership behavior found in the microcosm group will mirror the analogous dynamics found in the larger social system (Alderfer, 1976a, 1977b; Steele, 1975; Cooper, 1976; Doehrman, 1976; Searles, 1955; Sachs and Shapiro, 1976).

3. METHODS AND PROCEDURES FOR INTERGROUP RESEARCH

According to the three step process for conducting research, methods and procedures may be derived from theoretical propositions and also represent experiential tests of the concepts in action. This section builds upon the preceding portion by specifying the concrete steps that can be used to conduct intergroup research with organizations. There are five steps: (a) preliminary interviews, (b) microcosm group formation, (c) group and intergroup interviews, (d) organic questionnaire development and pre-testing, and (e) questionnaire administration. Research generally proceeds in the order of these steps, but it may not be possible or desirable to complete all five steps, depending on the circumstances in which the investigation is being conducted.

Preliminary interviews. The first phase is for the researcher to conduct a series of introductory interviews with individuals who are members of the related groups to be studied. Preliminary interviews consist of open-ended questions designed to educate the researcher to group and intergroup life of the system. These sessions also include questions aimed at discovering the names of individuals who would be able to provide complementary perspectives.

Sample preliminary questions for a study of task groups are:

1. What is the primary mission of your work group?
2. What department outside of your own has the most impact on your work group? What is the nature of that effect?

Sample preliminary questions for a study of racial groups as identity groups in a large corporation are:

1. What are your views of race relations in the XYZ company?
2. Who is someone who would provide a different point of view than yours?

When intergroup dynamics are alive in a system (and it is rare when they are not) simple questions such as those above tend to produce very rich responses, providing that the researcher acts in ways to assure confidentiality and develop mutual respect with each respondent. This process is usually aided by group meetings in advance of the interviews, if possible, where potential respondents can meet the researcher and hear about the purpose of the study.

Microcosm group formation. The preliminary interviews help prepare for group formation in a variety of dimensions. They rapidly educate the researcher to the intergroup issues alive in the system. This knowledge helps to shape the content of future questions, provides important information about power

relations of the groups being studied, and thereby sets parameters for composing the microcosm group.

The decision about membership in the microcosm group may be made by the researcher, or the investigator may choose to rely upon existing norms in the system to form the group. In one study to be described below, a microcosm group of labor and management to study the relations among task groups along a flow of work was formed totally by members of the system. Union members elected representatives to the group as was their custom and management members were appointed to the group according to their practices. In a second study to be described below, a microcosm group to study race relations in management was selected fully by the research team after preliminary interviews. Regardless of who does the selecting, however, potential microcosm group members should be volunteers who want to join the research enterprise. The kind of motivation necessary to make this method work effectively cannot be ordered exclusively by one's peers through election, by one's boss through the chain of command, or by the external prestige of a university researcher.

This method depends on the active natural contribution of microcosm group members. It recognizes that research people also represent a variety of groups. Intergroup theory assumes no one is without biases, due to the cognitive formations shaped by group experiences. Correction for the biases is, therefore, a matter not of striving for "objectivity" but of providing a means for complementary and conflicting biases to be observed. The microcosm group is one potent means to reveal alternative cognitive formations among organization members and between organization members and research people.

As a general rule, microcosm groups should not be much larger than twelve members, or the effects of size will interfere with the capacity of members to interact on a face-to-face basis. To help in the formation of microcosm group boundaries, the existence of the group should be made public. To keep the group boundaries permeable, provision should be made for interaction between the microcosm group and other units in the organization and for periodic rotation of members. If there are significant power differences among the groups being studied, then the numbers of people from each group should not merely mirror the organization conditions. The number of people from each subgroup within the microcosm group will influence the behavior, cognition, and feelings of the group members (cf. Kanter, 1977), and significant numerical imbalances will suppress important intergroup data. Dominant groups will control the information available from less dominant groups, or the less dominant group will withhold information out of fear of retaliation by the more dominant groups. Depending on the potency of the power differences, it may be appropriate to have the number of people be approximately equal or to have more members from the less powerful groups. Depending on the duration of the study, the composition of the microcosm group may change during the life cycle of the research. If a 'good enough' power balance is achieved in the group composition, then events in the group will provide insights about affective patterns, cognitive formations, and leadership behavior that are largely unavailable by any other systematic means.

Group and intergroup interviews. After the microcosm group is formed and its role in the research is clear to all members, it becomes possible to explore the intergroup issues in the system in more depth and detail.

This is done by group and intergroup interviews with members of the microcosm group and others in the system who are relevant to the dynamics being examined. Work begins with microcosm group members and extends to others in the system, if it is necessary to broaden or deepen understanding of particular phenomena. In this way, biases in the microcosm group may be complemented by data obtained from additional individuals and groups.

A group interview differs from an individual interview in ways that are similar to how pair dynamics differ from group dynamics. The group interviewer must not only be concerned about her or his relationship with the respondents, which is also true in an individual interview, but must also be concerned about the respondents relationships to each other. Both kinds of dynamics will influence the data obtained.

The optimal number of people for a group interview is 6-8, a size that is large enough to induce group dynamic effects and small enough to minimize the problem of individuals having to struggle for air time. The simplest form of group interview brings together people who share a common identity or organization group membership without a reporting relationship to one another. A more complex form is an intergroup interview with equal numbers from each of two groups who have interdependent relations with one another. The group interviewer opens the session by explaining the purposes of the session, the basis for composing the group, the problem of confidentiality, and how he or she hopes the group will work together.

The group interview poses special problems of confidentiality. In the individual interview the interviewer can guarantee treating the data confidentially, and the respondent must only decide whether he or she can trust

the professional integrity of the interviewer. In a group interview the interviewer should make the same commitment, but each respondent also has the potential for telling people outside the session what was said inside the meeting. To deal with this problem the group interviewer should address the issue at the beginning of the session and ask the people whether they would be willing to make a commitment to treat what will be said in the interviews confidentially. Generally experience indicates that respondents are quite willing to make and keep this agreement. If a respondent is unwilling to make this agreement, the interviewer should thank the respondent for her or his honesty and then point out to the group that they should answer the questions bearing in mind that the material may not be treated confidentially by all respondents. Making the issue explicit also alerts respondents to the possibility that some of their peers may make but not keep the commitment to confidentiality.

While providing for behavioral observation, the dynamics of the group interview may also aid or impede learning about feelings and cognitions. For each question asked there is the potential of having everyone in the group answer and thus provide a way of observing the degree of consensus and dissensus on any issue being discussed. By hearing the responses of someone else respondents may be stimulated to say things they would not think of or be willing to share in an individual interview. But some people become uncomfortable in a group situation. As a result they may say nothing at all, or they may attempt to answer every question decisively and thereby discourage others from giving their views. The group interviewer can manage this process by indicating that he or she is interested

in hearing from as many people as wish to speak, wants to learn about points of agreement and disagreement, and does not require the group to reach agreement on any issue. If the group develops a pattern of allowing only a few people to speak, the group interviewer can comment on the pattern without naming names, and remind the group that he or she is interested in hearing from all people who wish to speak.

A special opportunity of the group interview is to observe the behavior of respondents as well as to hear about their ideas and feelings. Behavioral observations are possible at both the group and intergroup levels of observations. When the group interview is composed of people who share a common fate in the organization (e.g., all tellers in a bank, or all black male managers) then the interview dynamics provide data on the internal dynamics of the group in question. When an intergroup interview is composed to include approximately equal numbers from each of two groups, then the behavioral dynamics in the session provide data about the external as well as the internal relations of the groups.

An intergroup interview is a more complex behavioral phenomena than group interview with people from the same organization or identity group. Depending on the intergroup being studied, the interviewer in an intergroup interview might be a team rather than an individual. This would be especially appropriate, for example, if the intergroup being studied were based on race. Then the interviewing team should consist of one member from each race. Depending on the circumstances, it might also be appropriate for various members of a research team to conduct group interviews as a function of the team members group memberships.

In part a group or intergroup interview is like any other intergroup event. It is similar to a microcosm group, except that the microcosm group typically represents more than two groups, continues to meet for several sessions, and provides insight into the changing relations among groups in the system over time. A group or intergroup interview is analogous to a carefully focussed snapshot at one point in time, while the microcosm group is analogous to a more broadly aimed moving picture. Nevertheless the design and conduct of an intergroup interview calls for understanding and application of intergroup theory, just as design and conduct of a microcosm group does.

Organic questionnaire development and pre-testing. An organic questionnaire speaks about organizational issues in the language and concepts of the groups being studied (Alderfer and Brown, 1972). The instrument is based upon the ideas and feelings uncovered during the preliminary individual interviews, microcosm group behavior and subsequent group and intergroup interviews. An organic questionnaire contrasts with more traditional instruments, which are repeatedly administered in diverse settings without taking account of the unique language and cultures of the groups where they are administered. The basis of an organic questionnaire is a series of statements made by organization members that respondents answer according to one or more of the standard response scales (e.g., strongly agree...strongly disagree; never....always, etc.)⁵. An organic questionnaire provides a means for groups in a system to have their perspectives in their own language incorporated into the research. This methodological technique recognizes and incorporates the different cognitive formations characteristic of intergroup life.

The chief advantages of an organic questionnaire are that it enhances the involvement of respondents and decreases the psychological distance between researchers and participants. The major disadvantage is expense, because a unique organic questionnaire must be developed for each intergroup study. Using an organic questionnaire also has epistemological implications. The methodology does not permit the accumulation of empirical generalizations based on repeated administration of the same instrument in diverse settings. Replicability and generalizability of findings depend on the repeated use of the entire intergroup research process rather than on simply re-using an identical questionnaire.

The microcosm group plays an important role in pre-testing each organic questionnaire. After the instrument is drafted members of the group complete the questionnaire and discuss their reactions. These discussions are inevitably valuable for improving the instrument so that it will clearly and empathically permit respondents from diverse groups to express their views. Several exercises with organic instruments teach important lessons about just how blind standard instruments can be to local cultural conditions. In one case, for example, we found that several work groups had no single name that was universally known to all other groups. Therefore some groups had to be listed on the questionnaire by several names so that they could be commonly recognized by the various other groups who dealt with them. This kind of phenomenon is just what one would expect from the intergroup theory given on preceding pages, but it is largely unrecognized by people who use most standard questionnaires.

Questionnaire administration. Questionnaires are most effectively administered in session of about 20 people with microcosm members present to help verify the history of the research process and answer questions from

members of their own groups. The presence of microcosm group members in the sessions represents the continued use of intergroup theory to aid the research process. In intergroup terms a questionnaire session is a transaction across group boundaries between a researcher (or research team) who is an outsider and respondents who are insiders. All the forces that are present in any intergroup transaction and lead to distorted information being transmitted will also be operating in a questionnaire session. The presence of microcosm group members in the session make the boundary between researcher and organization more permeable. This behavior by the microcosm group members complements similar work done by using an organic questionnaire. By the time the questionnaire is administered, microcosm group members have contributed ideas to the instrument, taken the questionnaire themselves, and helped to improve its capacity to provide an effective means for people to report about organizational conditions. They understand what the instrument is trying to measure, and they will have determined whether they can trust the researcher. Their communication of these impressions helps the research transaction.

The exact role of microcosm group members in questionnaire sessions should be subject to negotiation. There may even be situations where microcosm group members should not attend questionnaire sessions (cf. Alderfer, Alderfer, Tucker, and Tucker, 1980) because of particular intergroup dynamics. The general point is that each questionnaire session is a unique intergroup event, and the design of those sessions can usually be significantly improved through the participation of the microcosm group.

Specifying five steps in the intergroup research process does not mean that every study must use all of the elements. Prevailing intergroup condi-

tions in a particular situation may make it too costly to form a microcosm group. The alternative would be to develop a series of relationships with individuals who represent the various groups in the system but who never meet as a group (Alderfer, 1976a). Group and/or intergroup interviews may or may not be necessary depending on how much of the total system complexity can be contained by the microcosm group and on whether the microcosm group can be formed. If the microcosm group can be formed, group and intergroup interviews may not be necessary if the system is not excessively complex. If the microcosm group cannot be formed, then group and intergroup interviews may be the best approximation possible to the knowledge available from the microcosm group. The organic questionnaire provides a more efficient means for quantitative analysis of intergroup variables than is available through content analysis of behavioral observations or interview transcripts. But an organic questionnaire may not always be feasible if a substantial proportion of the respondents are illiterate or if composing organic items would be experienced as too severe a threat by some units in the system. In sum, the five steps provide a (psycho) logical sequence for generating data about intergroup relations in and among organizations. The degree to which the full sequence should or can be used depends on the intergroup relations being studied.⁶

4. ILLUSTRATIVE STUDIES

The methodology described in the preceding pages has been used in a number of studies. Those investigations have provided an empirical basis for sharpening the conceptualization of the method and for testing its

utility in a variety of contexts. They also provide empirical data relevant to a general theory of intergroups in organizations. This section describes some illustrative results from those studies. The aims are to show how the method was used in two concrete cases and to focus on results obtained through this method that were unavailable by other means.

Three theoretical problems were examined in each study: each relates to intergroup relationships in organizations; and each problem emerged from using the intergroup methodology rather than being determined apriori. The first problem pertains to the nature and quality of day-to-day work-based interpersonal relationships among individuals who belong to different groups. These results provide data about how intergroup forces influence work relations among organization members. The second problem addresses how the group members experience and perceive the effects of "outside groups" on their work relations. These data pertain to how additional groups within the organization influence the dynamics of the primary intergroup relationship being studied; they provide an empirical base for understanding one element of what we mean by "intergroup context." The third problem deals with elements of the power dynamics in each intergroup relationship being studied. These data derive from the effects of more macro forces on the intergroup relations.

Taken together the different problems cover three levels of analysis. The first pertains to interpersonal relationships among individuals representing different task or identity groups. The second includes the effect of exogenous groups on the primary intergroup relationship being examined. And, the third shows the effects of larger social system dynamics on the intergroup relationship in question.

This section now presents empirical data taken from organic questionnaires developed in each study. A fuller account of the microcosm group and its role in the two studies is provided elsewhere (Alderfer, 1977a; Alderfer, Alderfer, Tucker, and Tucker, 1980). The purpose here is to report quantitative data directly leading to the elaboration and revision of the theory of intergroup relations in organizations.

Study 1: Task Groups on a Workflow. This study examined the intergroup dynamics among task groups in a 250 person Drawing Division of a large industrial corporation. Microcosm group membership included 8 people from labor and 3 from management. Included were individuals representing all major work groups; among the work group representatives were five women and six men, two of whom were black, and nine of whom were white. Both union and management endorsed the study, and the procedures followed corresponded directly to those explained in the preceding section.

The major task of The Drawing Division was to produce the engineering drawings needed to install electronic equipment. A large proportion of the order requests that came to the division were routine. Division files contained standard prints that could be used to meet customer requests of this sort. Some orders required custom design, however, and the division was also responsible for this work.

To carry out its responsibilities, the division was partitioned into three major departments, which here we call Sales, Production, and Research. Each department was further divided into a series of work groups, including labor and management. Sales had approximately 74 employees in 5 work groups; Production had about 123 employees in 4 work groups; and Research had about 53 people in 5 work groups. Routine work was received by the

Sales department which verified or clarified all necessary information and then passed the order to Production. Production then obtained the appropriate drawings and sent them to a Manufacturing Division, which was responsible for making the equipment. Non-routine orders, in contrast, brought the Research Department into the workflow. If after receiving an order from the Sales Department, the Production Department determined that it did not have an appropriate drawing on file, it would contact the Research Department, which would then create a drawing to meet customer specifications. When this was complete, Production would add the new drawing to its files and then pass it on to the Manufacturing Division. Outside the Drawing Division were a variety of other divisions, in addition to Manufacturing, with whom it was necessary for Drawing Division members to interact in order to accomplish their assignments. Figure 2 provides a simplified workflow diagram for the system.

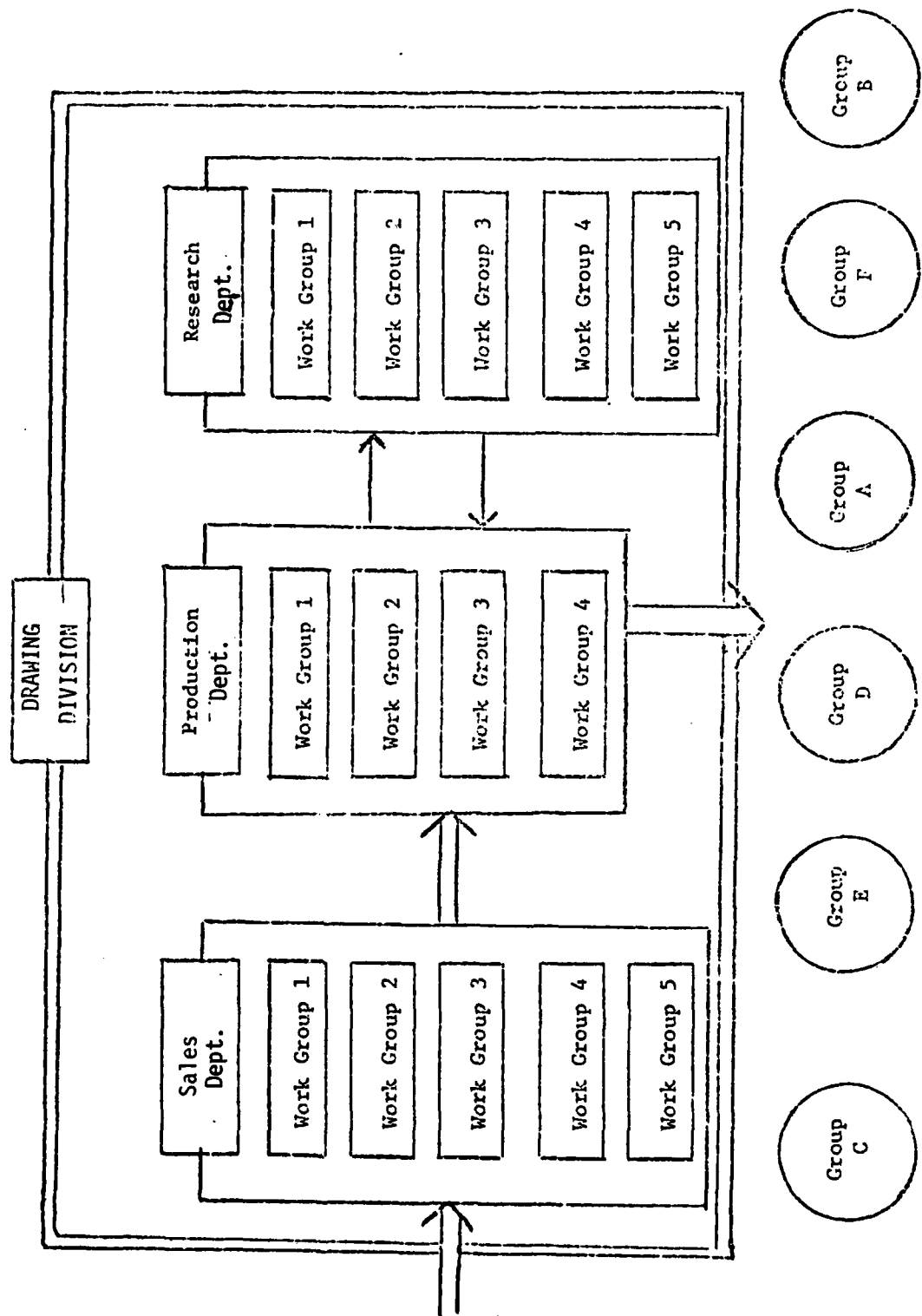
Insert Figure 2 about here.

For a study of intergroup relations along a flow of work, reactions with groups inside the division and groups outside the division posed similar problems. The first phase of this analysis was to determine how much interaction with the various groups was necessary for people to do their work. The organic questionnaire item designed to measure this for groups inside the Drawing Division was:

Listed below are the names of all work groups within the Drawing Division, subdivided by Department. Place an "X" in front of those work groups with whom you must relate in order to do your work.

The organic questionnaire item designed to measure this for groups outside

Figure 2 Simplified Workflow Schematic for Setting



the Drawing Division was:

Listed below are the names of a large number of work groups outside the Drawing Division with whom members of the division must work. Place an "X" in front of the names of those departments with whom you must work.

Table 1 presents the results for group interaction at the level of department inside the Drawing Division. The pattern of interaction shown in these results is very clear. Each department reports the most interaction among members of its own work groups and next most with people from departments immediately adjacent to it on the workflow. Departments at the extreme ends of the workflow also report the least amount of interaction with each other.

Insert Table 1 about here.

Table 2 presents the results for group interaction at the level of department outside the Drawing Division. Among the six most frequently contacted groups outside the division one does not show a statistically significant difference across departments within the division. The other five either show high interaction rates with either one or two departments inside the division. These results suggest that the division as a whole has at least one external group that is a common element of the environment for all internal groups and that each department also has a unique pattern of external group relations.

Insert Table 2 about here.

After providing a measure of interaction rate between groups inside and outside the division, respondents were asked to rate the quality of those interactions. Two 3-item scales were formed to characterize the

Table 1. Mean Proportion of Employees within each Department Requiring Contact with Other Departments¹

		Department Requiring Contact ²		
		<u>Sales</u>	<u>Production</u>	<u>Research</u>
Department Reporting Contact	<u>Sales</u>	55	26	8
	<u>Production</u>	26	40	28
	<u>Research</u>	12	19	34

¹Means were computed by summing across the percentages computed for each work group within the department.

²The interaction between department reporting contact and department requiring contact was highly significant by 3X3 analysis of variance, $p < .001$. Main effects were not significant.

Table 2. Proportion of Employees within each Department Requiring Contact with Outside Departments

Outside Department Receiving Contact ²	Department Requiring Contact		
	<u>Sales</u>	<u>Production</u>	<u>Research</u>
A *	18	40	42
B **	18	39	50
C **	61	29	52
D	65	62	52
E **	42	8	8
F **	26	29	60

²This list was composed by taking the three most frequently contacted groups for each department.

* χ^2 for difference among departments, $p < .05$

** χ^2 for difference among departments, $p < .001$

"task" and "relationship" variables in the interaction.

The specific items in the task scale were:

- (a) The accuracy of their work.
- (b) The timeliness of their work.
- (c) The completeness of their work.

The specific items in the relationship scale were:

- (a) The way their supervision interacts with our group.
- (b) The way our supervision interacts with their group.
- (c) Their ability to understand our problems.

Each of these items was answered on a five point scale:

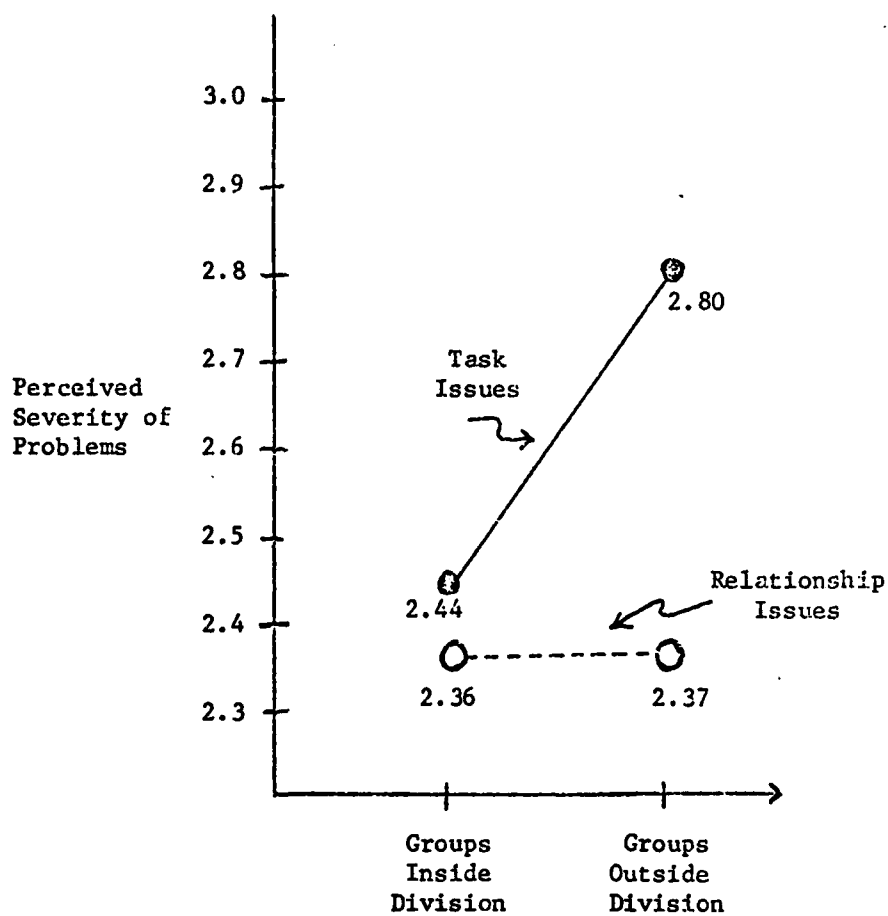
- 5 = always a problem
- 4 = often a problem
- 3 = sometimes a problem
- 2 = rarely a problem
- 1 = never a problem

Scales were completed for the groups inside and outside the division with whom people had to interact most in order to do their work.

Figure 3 shows the mean severity of problems from the inside and outside groups as perceived by individuals in the division. Groups inside the division were associated with less severe problems than groups outside the division ($p < .05$), and task issues were associated with more severe problems than relationship issues ($p < .001$). Moreover there was a significant interaction between group location and type of problem ($p < .001$). The difference in severity of task problems in comparison to relationship issues was greater for groups outside the division than for groups inside the division.

Insert Figure 3 about here.

Figure 3. Mean Perceived Severity of Task and Relationship Problems for Inside and Outside Groups



The Drawing Division brought together two different kinds of professional disciplines. The Sales Department was identified with customer service and had the objective of meeting customer needs at the lowest possible cost. The Production and Research Departments were identified with engineering and had the objective of developing the best possible technical solution for problems presented by customers. Although the existence of the Drawing Division testified to the need for bringing the two professional disciplines together, the interview process revealed that the major political struggle in the division pertained to perceptions of favoritism between the disciplines with regard to allocation of scarce resources (i.e. people, pay, promotions) at both the division and corporate levels.

Four items were designed to assess the perceptions of favoritism toward particular groups. They were:

- (a) In the division, groups oriented toward customer service occupy a position of favor relative to other groups.
- (b) In the company as a whole, engineering occupies a position of favor relative to other groups.
- (c) In the division, groups oriented toward engineering occupy a position of favor relative to other groups.
- (d) In the company as a whole, groups oriented toward customer service occupy a position of favor relative to other groups.

Each of these items was answered on a six-point scale ranging from strongly Agree to Strongly Disagree; there was no midpoint on the scale.

Figure 3 shows the mean perceived favoritism for the two functions as perceived by members of the three departments. Means in the figure are based on sums of items (a) and (d) for customer service and (b) and (c) for engineering. Customer service is perceived as more favored than engineering in general ($p < .001$). There was also an interaction between department

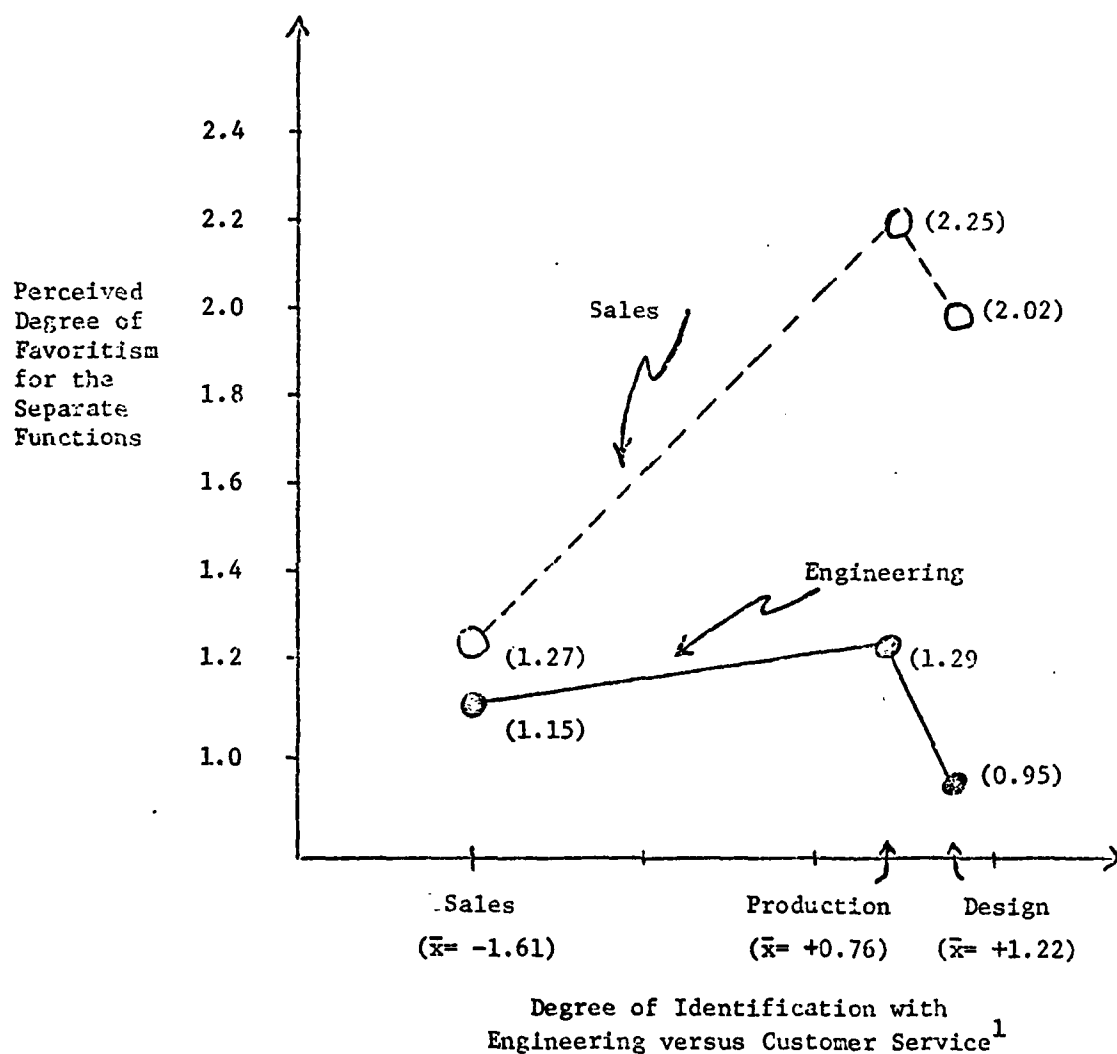
and discipline such that customer service was perceived as substantially more favored than engineering by Production and Research than by Sales ($p < .01$). Figure 4 shows the means of the four separate items with the data summed across the three departments. As the level of analysis changes from division to corporation, a significant interaction shows that perceived advantage of sales over engineering increases ($p < .01$).

Insert Figures 4 and 5 about here.

In summary, the Workflow Study showed intergroup effects operating at the three different levels of analysis ranging from the interpersonal to organization and its environment. Moreover, at each level there were results that at least we, and perhaps others as well, had not seen before. Data on task and relationship issues are common in small group studies, but far less attention has been paid to the intersection of these issues in intergroup research. The effects of exogeneous groups on the dynamics of intergroup relations on a common workflow is not a phenomenon in any research literature known to us. Finally, the effects of the larger system forces on the perceptions of work group members regarding resource allocation is also a result unfamiliar in our knowledge of the empirical literature.

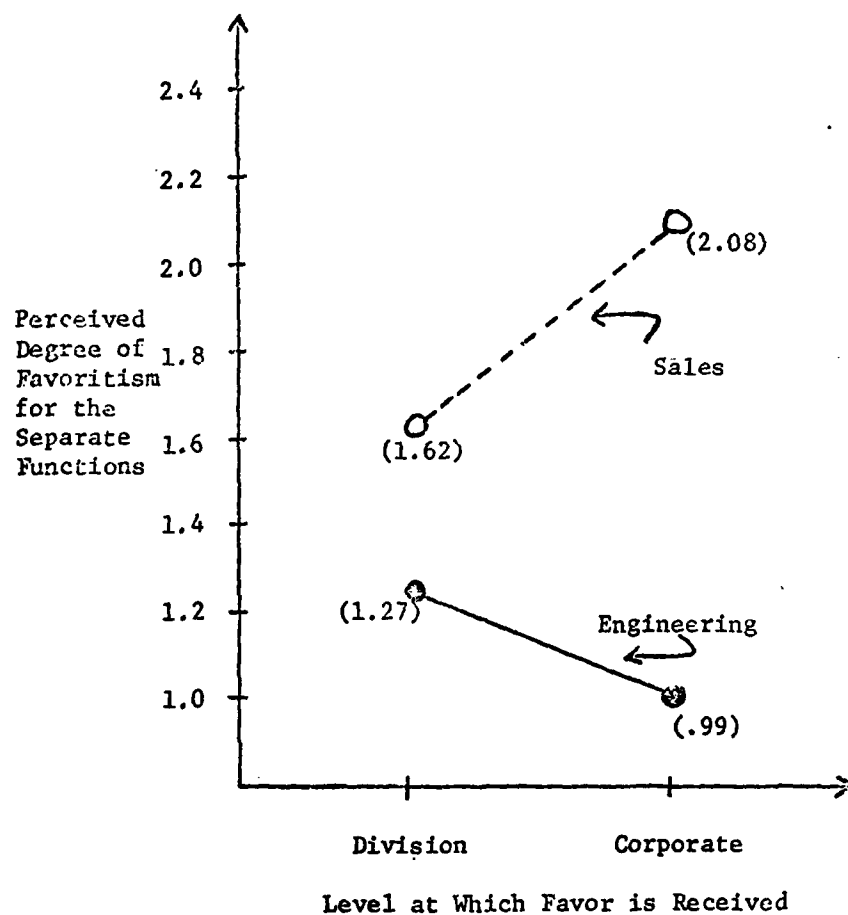
Study 2: Race Relations in Management. This study examined the intergroup dynamics between black and white racial groups among the approximately 2000 managers of a 13,000 person business corporation, here named fictitiously, the XYZ company. Microcosm group members included six black and six white managers representing four different levels of management as well as a variety of departments and geographical locations in the company. Black and white members of the group were also equally divided between men and women. The research team consisted of a black female, a black male, a white female, and a white male.

Figure 4. Mean Perceived Favoritism for Sales and Engineering by District Groups



¹The placement of the three district groups on the horizontal axis was determined by the difference between the groups' score on identification with engineering minus its score on identification with customer service.

Figure 5 Mean Perceived Favoritism for sales and Engineering at Division and Corporate Levels



The procedures described in the preceding section were followed in conducting the study. All black managers in the corporation and a 30% random sample of the white managers in the corporation were invited to attend organic questionnaire sessions. In total 676 people of the 815 invited (or an 83% response rate) attended the meetings to complete questionnaires. Individuals were scheduled to attend questionnaire sessions with people of like race and sex and, where possible, with people of their own management level. This particular design was evolved as a result of conversations between the research team and microcosm group. Three hundred fifty one white males, 185 white females, 61 black males and 79 black female managers completed questionnaires.

Table 3 presents items describing qualities of face-to-face race relations as perceived by the four race/sex groups in the XYZ corporation. Blacks reported that they were more likely to have serious conversations about race relations with people of their own race than whites did. Blacks also reported that they were more likely to have conversations about race with people of a different racial background than whites did. Both blacks and whites reported that the other group socialized more with its own members than with other group members, and each racial group also tended to see this general pattern as less true for its own group than for the other group. On balance, blacks evaluated the quality of one-to-one black-white relationships more negatively than whites.

Insert Table 3 about here.

In the process of working with the microcosm group, the research team discovered the existence of two "interest groups", in whose role the company

Table 3. Perceptions of Face-to-Face Relations among Black and White Managers

	White Males	White Females	Black Males	Black Females
I have serious conversations about racial issues with XYZ people of my <u>own</u> racial background. ^{a**}	7	6	54	51
I talk about race relations with XYZ people who are of a different race than mine. ^{a**}	7	11	21	17
Blacks socialize mainly with other blacks regardless of job level. ^{b**}	84	82	77	70
Whites socialize mainly with other whites regardless of job level. ^{b**}	84	71	89	81
Good one-on-one black-white relationships are common in XYZ. ^{b**}	74	84	40	59

^aPer cent often, very often

^bPer cent strongly agree, agree, mildly agree

^cXYZ if a fictitious name for the corporation

**Differences $p < .01$ by χ^2 test

Note: Percentages are used in Tables 3, 4, and 5 to show clearly the potency of race effects on intergroup perceptions. Task group effects, while statistically significant, were not as "obviously" potent.

had a bearing on race relations among XYZ managers. The first was the Black Managers Association, and the second was the Foreman's Club. Each organization had a formal structure, met regularly by itself, and had a legitimized basis for periodic meetings with top management in the corporation. Although the Foremen's Club did not formally restrict its membership to white people, the net effect of their recruitment procedures was to have very few black members. People could only remember there being one black officer in the club, and he "did not last long," as one white person put it in an interview. The Black Managers Association did restrict their membership to black people, although there was a running debate among the members as to whether this was a good policy. The organization did regularly invite white managers to their meetings as their presence was relevant to particular topics the group was exploring. There was debate in both the Black Managers Association and the Foremen's Club as to what degree each group was primarily a social organization. Membership in the Foremen's Club was restricted to people at the first level of management, while the Black Managers Association was open to black managers at all levels. Practically speaking, however, most members of the Black Management Association were first level managers because most black managers were at that organization level.

Table 4 presents a series of parallel organic questionnaire items pertaining to the two organizations. Analyses of the responses were based on comparing members and non-members of both organizations across racial groups. The findings show a limited parallelism in the roles played by the two organizations for their members and non-members. Black managers were substantially more likely to see the Foremen's Club as a racist organization than either category of white managers. Similarly white managers were substantially more

Table 4. Perceptions of "Interest Group" Dynamics among Black and White Managers

	White Foremen Club Members	White Foremen Club Non-Members	Black BMA Members	Black BMA Non-Members
The Foremen's Club works to improve working conditions for its members. ^{(a)**}	86	65	75	82
The Black Managers Association works with top management to solve racial problems in XYZ ^(a)	84	77	81	66
The Foremen's Club is essentially a social organization ^{(a)**}	85	78	57	63
The Black Managers Association is essentially a social organization ^{(a)**}	43	45	34	53
The Foremen's Club is essentially a racist organization ^{(a)**}	23	16	53	51
The Black Manager's Association is essentially a racist organization ^{(a)**}	64	45	16	25

^(a)Percent strongly agree, agree, mildly agree

** Difference $p < .01$ χ^2 test

likely to see the Black Manager's Association as "racist" than either category of black managers. The Foremen's Club was seen as more of a "social organization" than the Black Manager's Association by both black and white managers. Black managers were less likely to see the Foremen's Club as a social organization than white managers, but the analogous pattern did not apply to views of the Black Managers Association. Members of both the Foremen's Club and the Black Manager's Association were more likely to see the respective organizations solving problems than non-members.

In sum, the data show evidence of race and membership effects on the perception of both organizations. There is also evidence of a consensual perception about differences between the organizations from both racial groups.

Insert Table 4 about here.

The problem of allocation of resources between black and white managers focussed most heavily on the question of promotions. The question troubling both black and white managers was how the organizational forces came together to favor one group or the other for advancement in the system. Table 5 presents a series of items pertaining to this issue. Personnel Committees, the groups in the XYZ company who made promotion decisions, were seen as much more favorable to whites than to blacks by black managers. On the other hand, a high proportion of managers from both races thought that competent people from their own and the other race would be promoted. Within that general view, however, more of each racial group tended to believe that competent members of the other race would be promoted than members of their own race. Finally, on

the question of rates of promotion, each group thought that the other had a decided advantage.

Insert Table 5 about here.

To facilitate comparison with analogous data from the task group study, the last two items in Table 5 were also subject to analysis of variance in order to test for interaction effects between membership in a race/sex group and perceived favoritism of one racial group compared to the other. Figure 6 shows the highly significant ($p < .001$) interaction in graphic form. The results in this figure directly parallel those in Figure 4 from the task group study.

Insert Figure 6 about here.

In summary, the Race Study also showed intergroup effects operating at three different levels and provided unique findings relevant to each level. A special theme cutting across data from each level was the presence of both parallel and non-parallel perceptions between the racial groups. Both black and white groups reported that they socialized mainly with their own group, and thought the other group behaved more in this way than their own group. But blacks had a decidedly more negative evaluation of black-white interactions than whites did. The Black Managers Association and the Foreman's Club were both seen as racist by members of the minority race relevant to each organization. But the Foreman's Club was seen as more of a "social" organization than the Black Managers Association by both blacks and whites. Blacks and whites both saw their own group at a disadvantage and the other group at an advantage in the competition for promotions in the corporation. But the two racial groups differed in their perceptions of how the Personnel Committees operated in the organization.

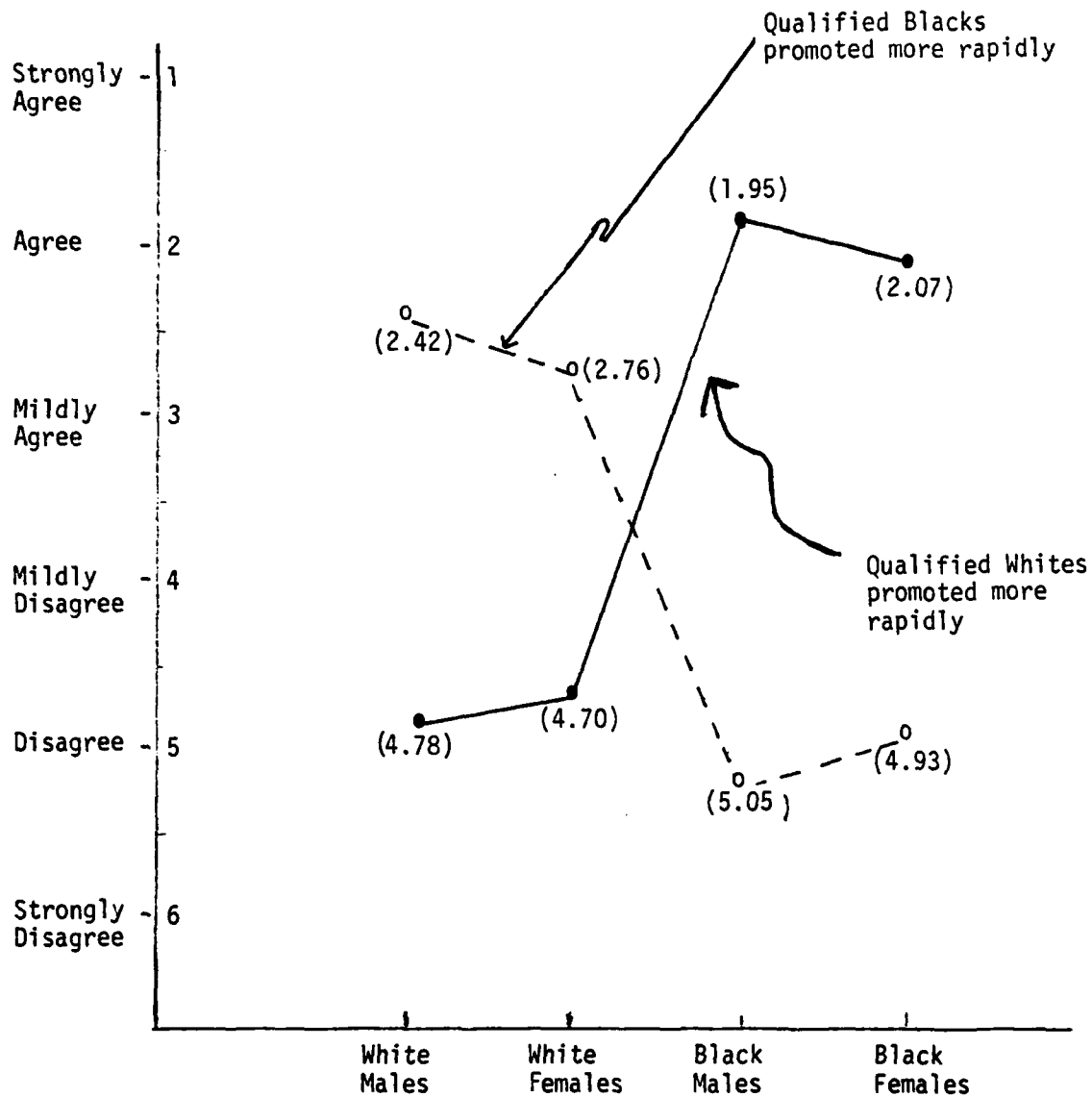
Table 5. Perception of Promotion Dynamics among Black and White Managers

	White Males	White Females	Black Males	Black Females
Personnel Committees view white males as a proven commodity. ^{a**}	33	49	86	88
The way Personnel Committees are set up within XYZ it is almost impossible for blacks to reach upper management. ^{a**}	4	10	72	73
Despite EEO targets for blacks, competent whites will be promoted at XYZ.	81	88	97	95
Despite racial discrimination, competent blacks will be promoted at XYZ.	95	94	64	66
Qualified whites are promoted more rapidly than equally qualified blacks. ^{a**}	4	7	62	53
Qualified blacks are promoted more rapidly than equally qualified whites. ^{a**}	82	75	13	12

^aPercent strongly agree, agree, mildly agree

^{**}Differences $p < .01$ by χ^2 test

Figure 6 . Mean Perceived Promotion Advantage for Blacks and Whites



5. TOWARD A CONCEPT OF EMBEDDED INTERGROUPS IN ORGANIZATIONS

The task group and the race relations studies were both conducted using the intergroup methodology described in the beginning of this paper. The same generic intergroup propositions were used to design the methodological procedures in each study, although the major actions and instruments were different in each study because the intergroup problem and organizational context in each study were different. Results about face-to-face dynamics, interest group dynamics, and resource allocation tensions were uncovered in both studies. These three topics "emerged" from using the methodology. They were not pre-programmed by the researchers in either case, even though the race study followed the task study historically. All three topics can be readily related to the concept of groups in organizations and the proposition about intergroups in organizations stated in the theoretical portion of this paper. But the three sets of findings also have additional theoretical implications. In our minds, they provoke a need for additional intergroup concepts, while confirming the utility of those ideas already described. The need for additional intergroup concepts arises from phenomena that occur because the intergroups studied were in organizations, thus the term "embedded" intergroups.

One line of research on intergroup relations especially known to social psychologists tends to minimize the effects of inequalities between groups (e.g. Sherif and Sherif, 1969; Blake, Mouton, and Shepard, 1964; Burke, 1972). Other treatments, however, tend to give the hierarchical relations among groups a prominent place in their theoretical statements (van den Berghe, 1972; Brown, 1978; Billig, 1976; Smith, 1977). The concept of embedded intergroups explicitly addresses the hierarchical nature of intergroups in organizations. In fact, data from both the task and race

studies show marked effects of perceived power differentials on how group members assess their own advantages and disadvantages in the allocation of rewards by the organization.

The perceptions between the customer service and engineering groups revealed a pattern of intergroup dynamics which to the writers' knowledge had not been previously observed. According to the reported data, the dominance of customer service over engineering was much greater at the corporate than at the division level. In fact, the division itself was far more influenced by engineers than by customer service people. The division head and two of three department heads were engineers, and there were far more people in the production and design districts, who were identified more with engineering than customer service, than in the sales department. But there was little doubt that corporately customer service dominated engineering. Historically the company had moved from a time when local engineering developments determined a high degree of their success, to a period when customer relations were more crucial to their effectiveness. So one might speculate that if "hard reality" were determining all of the perceptions the division data would show engineering over customer service, and the corporate data would demonstrate a reverse of that pattern. What may have been happening was the infusion of corporate values into the division. Even though engineers outnumbered and outranked customer service people in the division, corporate values infused the division to such a degree that, even "locally", the smaller and less influential customer service group was perceived by other groups to carry the dominant value position. Moreover, the immediate threat of internal engineering power may have led the customer service people to deny their own relative advantage, lest they be seen as "uppity" and be punished locally for their relative success in the

broader corporate context. In an intergroup conflict within another intergroup conflict the dominant external group may "overdetermine" the perceptions of the internal intergroup dynamics.

A similar pattern, except in more extreme form, may be observed in the black-white study regarding the subject of promotions. To an unusually significant degree both black and white groups reported that members of their own groups were at a disadvantage to members of the other group in rates of promotion. For blacks this interpretation was based on the composition of corporate Personnel Committees, which were overwhelmingly white, while for the whites their perspective was tied to their interpretation of the company's response to government pressures for affirmative action.

Figures 7 and 8 provide diagrams that illustrate the application of embedded intergroup analysis to the findings uncovered in the task and racial group studies. Each diagram shows how the intergroup pattern would look to an individual looking "upward" in level of analysis from her or his position in a work group. Individual members of the sales department see a division managed by members of the other group and a corporation led by members of their own group. Individual members of the production or research department see a division led by members of their own group and corporation led by members of the other group. Individual whites see the corporation managed by members of their own group and an external environment threatening pressures for affirmative action. Individual blacks see the corporation led by members of the other group, and, in contrast to whites, do not see the environment as clearly favorable to black interests.

Although each of the four intergroup relations shows a unique pattern when the embedded concept is applied to them, the general concept of

embeddedness explains the several sets of findings. It is therefore necessary to consider several levels of analysis in order to explain the pattern of perceptions shown across the two studies. The concept of embedded intergroups provides the guiding principle for relating micro and macro phenomena in organizational behavior.

The multi-level dynamic of particular interest is the tendency for group members to exaggerate their own disadvantage in explainable ways. Because intergroup dynamics operate at multiple levels, the perceptions of groups taken at any particular level tend to be shaped by forces in the supra systems, such that perceived disadvantage at a more macro level tends toward denial of advantage at more micro levels. Moreover, the more macro the level at which the disadvantage is perceived, the more severe the

Insert Figures 7 and 8 about here.

denial at more micro levels.

The mechanism, as hypothesized, takes three levels to take effect. It is based on the assumption that the most macro level supports some of the interests of the most micro level, which may be in conflict with the perceived interests of the middle level. The middle level then stands in conflict with both upper and lower levels, but is much more likely to act out the differences on the lower level. Thus, the lower level must adjust its perception in such a way as not to become threatening to the middle level. In that way the lower level protects itself from potential threats imposed by the middle level even though it must deny its power to do so.

The concept of embedded intergroups applies to "interest" groups dynamics and to face-to-face relations among organization members as well as to resource allocation perceptions. Both task and race studies showed the effects of out-

Figure 7. Embedded Intergroup Analysis for Task Groups

Sales Department
Intergroup Pattern

Production and Research Department
Intergroup Pattern

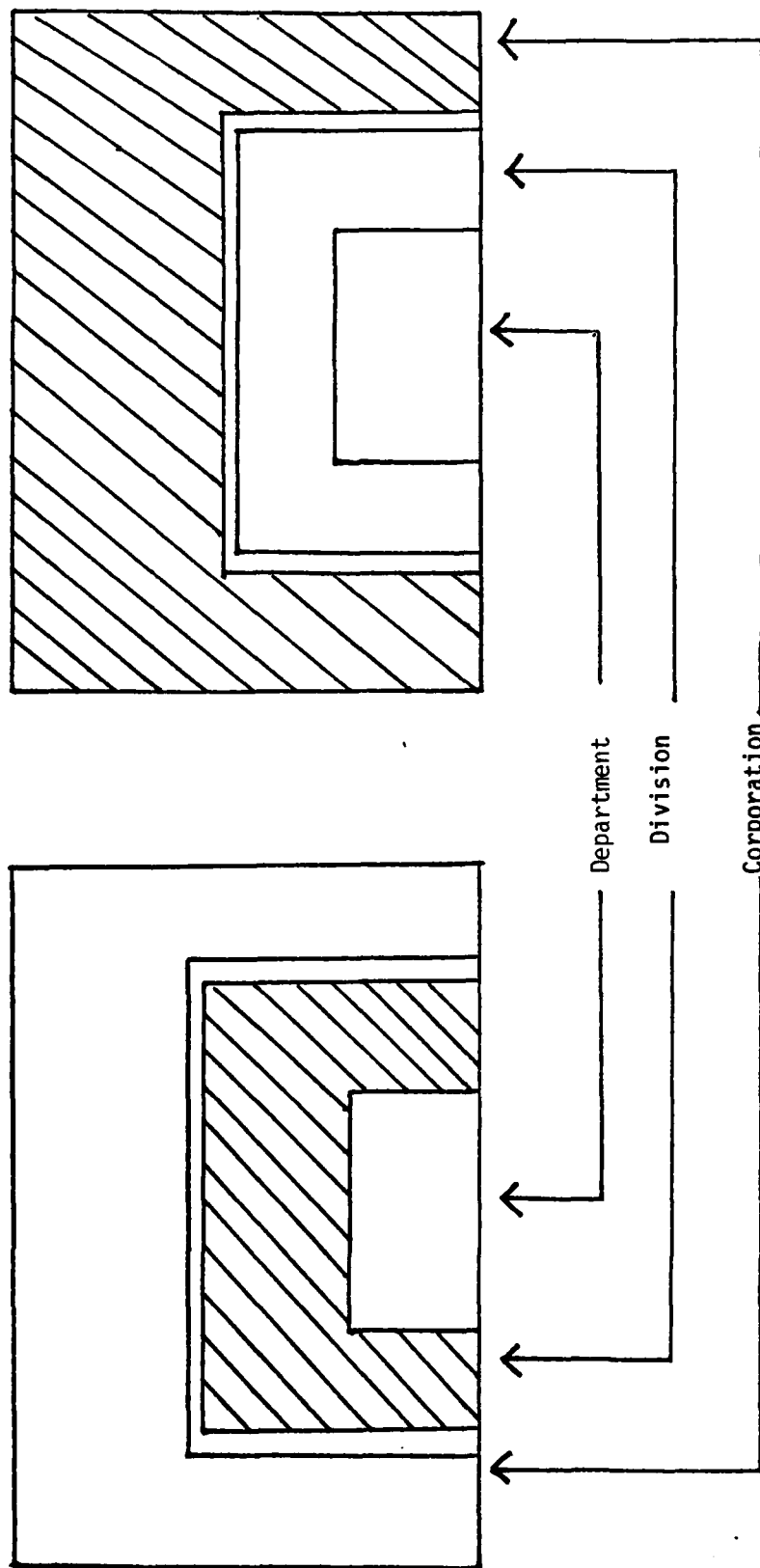
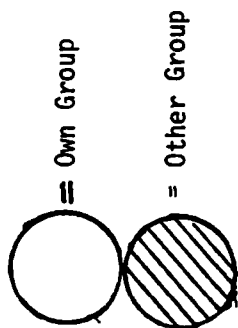
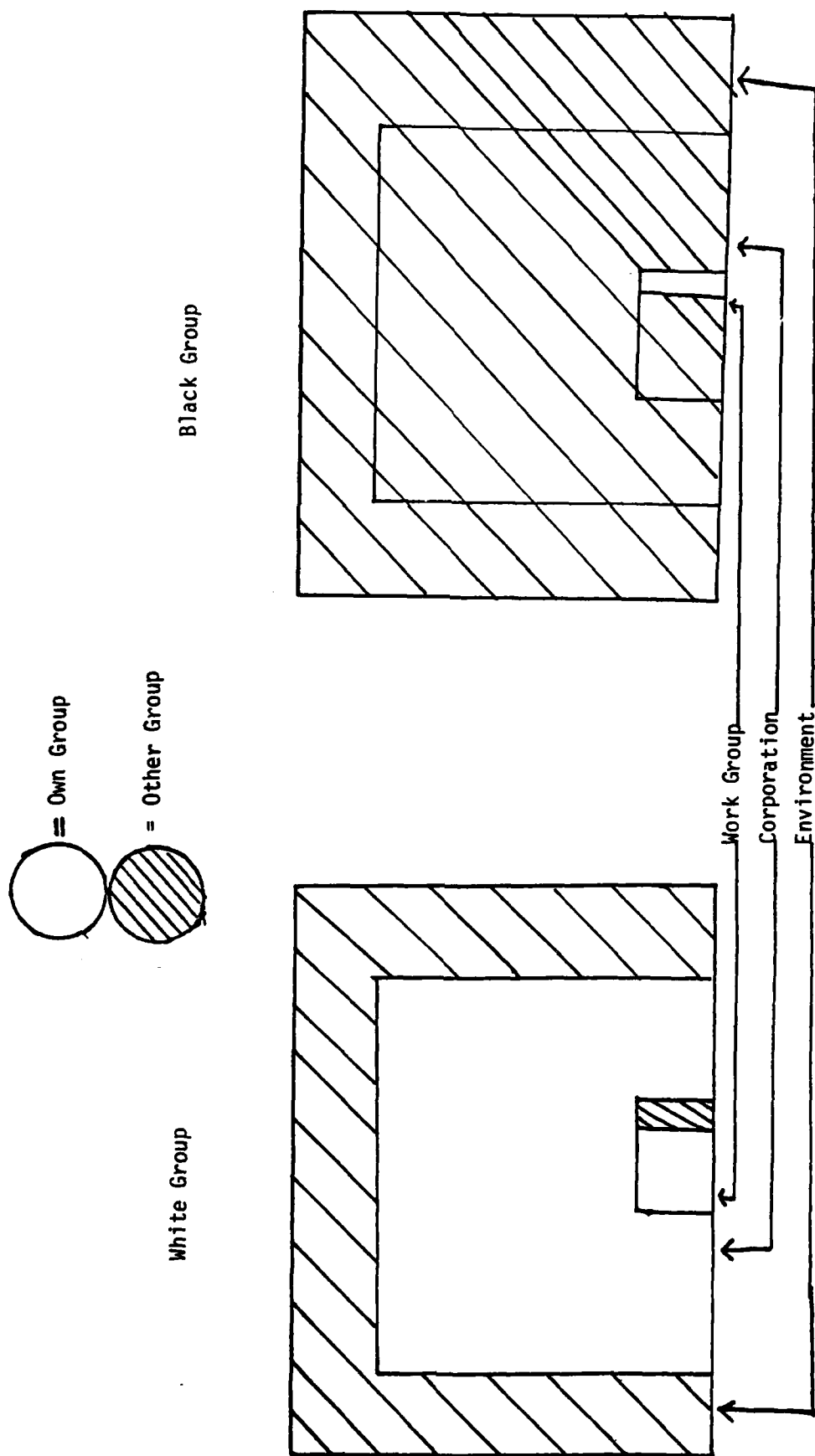


Figure 8. Embedded Inter-group Analysis for Racial Groups



side groups on the intergroup dynamics. Although the sales, production, and research departments shared a common division boundary, each group also had its own set of external group interactions. Thus the relations among the three departments inside the division were influenced by their unique exchanges with groups outside the division. The data further suggest that the problematic features of the task interactions were greater for external than for internal groups. In the race study, both black and white groups had special interest groups in the organization. These special organizations served their members by negotiating with senior management and by sponsoring social activities. Despite their similar roles, the two organizations also differed in the perceptions held about them by members and non-members. With the aid of the embedded intergroup concepts these varying perceptions become more understandable. The Black Managers Association was seen by both blacks and whites as more influential and less social than the Foremen's Club. This difference in consensual perception about the two "parallel" organizations also relates to the different nature of black and white embeddedness in the XYZ organization.

Finally, the embedded nature of organization intergroups also carries to face-to-face relations. This phenomenon showed most clearly in the race study. Blacks and whites saw their own and the other group as socializing with themselves, but the nature of those interactions was not the same for both groups. Blacks reported more interaction about racial issues with their own and with the other group than whites did. This pattern also is related to the differential pattern of embeddedness confronted by black and white members in the predominantly white XYZ organization. Thus in a predominantly white organization whites tend to think of themselves as "just people," (i.e., as individuals) not as whites (i.e., as group representatives). A group in a minority position, surrounded by the other groups at successively more macro levels of analysis, is

forced to deal with intergroup issues, while groups in a majority position can afford to overlook group dynamics and focus mainly on the properties of individuals.

The theory-method-data-theory circle has now been completed. Data generated by the intergroup methodology derived from intergroup theory called for additional developments in intergroup theory. The concept of embedded intergroups in organizations provides a means to explain the effects on individuals, groups, and intergroup relations of successively more macro supra system dynamics.

6. CONCLUSION

This paper began by identifying the micro-macro tension in organizational behavior research and now returns to that problem in conclusion.

The micro-macro tension is related to both theory and method. Empirical studies rooted in the micro tradition but exploring the effects of "macro variables" lack a well developed conceptual position for dealing with macro variables. Herman and Hulin (1972) p.88, for example, state:

Structural variables...included three functional divisions (production, production service, and staff), and ten departments of homogeneous task specialization. Individual characteristics... included plant tenure, age, and educational level. No claim is made that the variables placed in the structure category and the individual difference category form internally consistent collections of variables...

The type of data analysis following from this perspective relies heavily on complex multivariate analysis and emphasizes the amount of variance accounted for by classes of variables. It does not lead to conclusions about dynamic forces that shape the experience and behavior groups and organizations. It does demonstrate that group and organizational variables ← our conceptualization would say identity group and organization group membership → relate to the experience of individuals in organizations.

Theoretical positions presenting the macro perspective emphasize the impact of variables beyond the control of individuals and groups inside organizations. There is a range in the degree to which macro theories limit attention to the role of individuals and groups in organizations. Pfeffer and Salancik (1978, p.10) seem more certain about the limited impact of individuals than Aldrich (1979, pp.18 ff). But both theoretical perspectives value the part played by individuals and groups less than the impact of macro forces. The macro perspective does lead to conclusions about dynamic forces that shape the experience of whole organizations, but has less to say directly about the experience of groups within organizations.

Intergroup theory and method provides a means for relating the effects of macro forces to the impact on individual people who are members of groups which in turn, are the targets and the origins of supra system dynamics. Intergroup theory offers a means to escape the conceptual limitations of much of the micro research. Intergroup methods provide an approach to data collection and analysis that does not overlook the significance of individuals and groups in shaping and being shaped by macro forces. The effect of intergroup methods is to provide data and to stimulate theory that call for multi-level concepts and for an examination of the tensions among levels. It argues against the conceptual luxury of choosing one level or the other -- whether that level be macro or micro -- and it argues for accepting rather than denying the mutual influence of micro and macro dynamics in organizational behavior.

Intergroup theory also makes the researcher and research team subject to the same forces they study. The conventional meaning of "objectivity" in social research and the traditional split between the subjective and objective become less tenable. The meaning of objectivity in transactions between researchers and respondents shifts from what is observable outside people to what is experienced inside them. In seeking solutions to experimenter effects in behavioral research, Robert Rosenthal (1966, p.375 ff) suggests minimizing human contact to control the impact of experimenter behavior on subjects. Viewed from the perspective of intergroup theory, the efficacy of this class of procedures in terms of their own objectives depends on how group memberships were presented in the minimal contact transaction. A video tape of a white experimenter giving instructions to a black "subject" in a predominantly white college in the United States, for example, would not be viewed as the

experimental equivalent of a video tape of a black experimenter giving instructions to a white "subject" in a predominantly white college in the United States. Participant observers in field settings do not escape intergroup forces because they enter the territory and culture of their respondents. Intergroup theory regards the participant observer as a representative of several groups and expects participant observer data to be shaped in output and intake by the relations between the groups represented by the observer and the groups being studied. Finally, the standardized questionnaire, the tool of so much of social research, turns out not to be so standardized after all when viewed from the perspective of intergroup theory and method. What "objectively" appears to be a universal instrument when viewed by an investigator inside her or his research group becomes a culture bound document imposed on one or more other groups by another when viewed from an intergroup perspective.

To the extent that an intergroup perspective is taken seriously, the implications for training people to conduct research are not small. If every research transaction is an intergroup event and every data collection subject to the intergroup forces operating in that situation, then researchers must learn to understand and manage their own group representational roles. The group and intergroup skills required to carry out the methods described in this paper require extensive supervised practice. They cannot be learned simply by reading. To conduct behavioral research taking account of how intergroup forces may influence research transactions requires an awareness and acceptance of the impact of group forces on individual and organizational behavior that is not common among academics in the United States today (cf. Merton, 1972; Cedric X, 1973).

FOOTNOTES

1. The theory-data model may also reflect a lack of consciousness on the part of investigators about the effects of their behavior on the data they collect. In this case the theory-method connection would be implicit in their work rather than absent. We suggest that researchers who work this way make incorrect connections between theory and method rather than no connections.
2. The term "recognized" means in a psychological rather than a legal sense. A surreptitious group may lack legal recognition but still engages in intergroup transactions. These transactions could not occur without members and non-members psychologically "recognizing" the group in order to do business with it.
3. This concept of group also differs the notion of reference group as used by Merton (1968) and others by the emphasis on behavior, active (not just fantasized) interdependence among members, and group representational functions. It is closest in meaning to terms proposed by Rice (1969).
4. Identity group membership covers a variety of "individual difference" variables as defined by industrial psychologists. It should be clear from the definition and discussion that we think "individual differences" based on variables such as ethnicity, race, sex, age, religion, family, etc., are only in part individual and in large measure group.
5. Sample organic questionnaire items are included in the next section of this paper.

Footnotes (continuation)

6. The microcosm group is also used for action research and organizational change. In fact, this additional role for the group in helping an organization to understand itself is very important to the motivation of microcosm group members and may be essential for the method to work effectively. All known instances of using a microcosm group include an action research component. When action research is part of the contract between researcher and organization, then the microcosm group also plays a key role in the design and conduct of data feedback. See Alderfer (1979) for a theoretical analysis of feedback designs and Alderfer (1977b) for a case describing the role of the microcosm group in feedback process. The present description of the intergroup research process stops short of the feedback role because our interest here is in the role of the microcosm group in helping to generate basic knowledge about human behavior, not in assisting with social change projects.

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